

# Energy Frontier Research - Guidance

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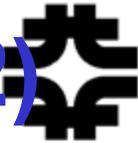


	Accel. Sector	Particle Physics Sector	Computing Sector	Directorate	Total
FY12	451	15209	1800	116	17576
FY13	246	10521	1448	79	12294
FY14	163	9659	1388	40	11250
FY15	80	8844	1258	0	10182

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# Energy Frontier review (Jul 2012)



DOE Support FY 2014 (Proposed)										
Personnel Support from DOE:	LHC (ATLAS/CMS)		Tevatron (D0/CDF)		PASS-THRU FUNDS		Other		TOTAL	
	No. heads	FTE	No. heads	FTE	No. heads	FTE	No. heads	FTE	No. heads	FTE
Permanent PhD	39	30.30	7	4.48	0	0.00	0	1.42	46	36.20
Temporary PhD	17	16.15	11	4.00	0	0.00	0	0.00	28	20.15
Graduate Students	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Engineer	6	1.00	0	0.00	0	0.00	0	0.00	6	1.00
Computing Professional	3	0.20	0	0.00	0	0.00	0	0.20	3	0.40
Technician	0	0.00	0	0.00	0	0.00	0	0.06	0	0.06
Administrative	4	2.10	0	0.02	0	0.00	0	0.04	4	2.16
<b>TOTAL</b>	<b>69</b>	<b>49.75</b>	<b>18</b>	<b>8.50</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>1.72</b>	<b>87</b>	<b>59.97</b>
DOE/HEP Funding (per activity):										
SWF (in \$, include overhead)	\$12,794,585		\$1,887,392		\$0		\$453,347		\$15,135,324	
M&S (in \$, include overhead)	\$1,582,053		\$24,141		\$0		\$1,162		\$1,607,356	
Travel (in \$, include overhead)	\$1,047,278		\$55,487		\$0		\$10,000		\$1,112,765	
<b>TOTAL</b>	<b>\$15,423,916</b>		<b>\$1,967,020</b>		<b>\$0</b>		<b>\$464,509</b>		<b>\$17,855,445</b>	

DOE Support FY 2015 (Proposed)										
Personnel Support from DOE:	LHC (ATLAS/CMS)		Tevatron (D0/CDF)		PASS-THRU FUNDS		Other		TOTAL	
	No. heads	FTE	No. heads	FTE	No. heads	FTE	No. heads	FTE	No. heads	FTE
Permanent PhD	39	31.30	4	3.00	0	0.00	0	1.42	43	35.72
Temporary PhD	17	17.15	6	2.00	0	0.00	0	0.00	23	19.15
Graduate Students	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Engineer	6	1.00	0	0.00	0	0.00	0	0.00	6	1.00
Computing Professional	3	0.20	0	0.00	0	0.00	0	0.20	3	0.40
Technician	0	0.00	0	0.00	0	0.00	0	0.06	0	0.06
Administrative	4	2.10	0	0.00	0	0.00	0	0.04	4	2.14
<b>TOTAL</b>	<b>69</b>	<b>51.75</b>	<b>10</b>	<b>5.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	<b>1.72</b>	<b>79</b>	<b>58.47</b>
DOE/HEP Funding (per activity):										
SWF (in \$, include overhead)	\$13,194,585		\$1,240,000		\$0		\$453,347		\$14,887,932	
M&S (in \$, include overhead)	\$1,782,053		\$20,000		\$0		\$1,162		\$1,803,215	
Travel (in \$, include overhead)	\$1,127,278		\$23,600		\$0		\$10,000		\$1,160,878	
<b>TOTAL</b>	<b>\$16,103,916</b>		<b>\$1,283,600</b>		<b>\$0</b>		<b>\$464,509</b>		<b>\$17,852,025</b>	

Scenario A plan  
(No LPC FWP)

## B: Energy Frontier Summary (2012)



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<i>Last year</i>	<b>FY11 Actual</b>	<b>FY12 Budget</b>	<b>FY13</b>	<b>FY14</b>
Total FTE's	140	96	74	64
Total M&S	4493	3302	2825	2748
Total SWF	28361	20271	18426	16172
Total Travel	1059	1205	1176	1133
<b>Sum</b>	<b>32854</b>	<b>23573</b>	<b>21250</b>	<b>18920</b>

# B: Energy Frontier Summary (2013)



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FY 2012	FY13 Budget	FY13 AFP	Case B FY14	Case B FY15	Case B FY16
23504	20073	22790	18368	16625	14625

## Continue reduction in effort on Energy Frontier

- B: Steep reduction to CDF and D0 effort. No growth in CMS.
- B: Reduction in LPC support, travel in FY15; CMS effort shrinks in FY16
- Is reduction offset by growth in Intensity Frontier?
- Other scenarios could cut CDF/D0 to zero in FY15.

# FY14 – PPD Energy Frontier



<i>FY 14 (k\$)</i> Activity	Sum of M&S	Sum of M&S TRVL	Sum of SWF	Sum of Grand Total	Sum of Grand Total FTE
ATLAS - A Toroidal LHC ApparatuS	0.00	0.00	78.94	78.94	1.0
CDF	176.00	24.52	313.26	513.78	3.0
CMS - Compact Muon Solenoid	75.00	100.00	4,088.96	4,263.96	24.6
DZero	123.45	107.58	480.40	711.43	4.2
Energy Frontier General	0.00	0.00	71.11	71.11	0.4
Lepton Detector	0.00	0.00	149.79	149.79	1.2
	<b>374.45</b>	<b>232.10</b>	<b>5,182.46</b>	<b>5,789.00</b>	<b>34.3</b>
	374.45	232.10	5,182.46	5,789.00	34.3

- CMS effort – gained some people and lost some
- ATLAS effort – one postdoc
- Reduced CDF/D0 Effort

*direct*

# FY15 – PPD Energy Frontier



<i>FY 15 (k\$)</i>		Sum of M&S TRVL	Sum of SWF	Sum of Grand Total	Sum of Grand Total FTE
Activity	Sum of M&S				
ATLAS - A Toroidal LHC Apparatus	0.00	0.00	0.01	0.01	0.0
CDF	85.00	5.67	91.18	181.85	0.5
CMS - Compact Muon Solenoid	75.00	100.00	4,210.57	4,385.57	24.6
DZero	81.25	15.00	54.74	150.98	0.3
Energy Frontier General	0.00	0.00	72.89	72.89	0.4
Lepton Detector	0.00	0.00	182.69	182.69	1.2
	241.25	120.67	4,612.08	4,974.00	27.0
	241.25	120.67	4,612.08	4,974.00	27.0

- CMS effort constant
- ATLAS effort ended
- Greatly reduced CDF/D0 effort

*direct*

# CMS Center



<b>CMSC FY2013-15 Budget Plan (\$K)</b>	<b>FY2013 Plan</b>	<b>FY2014 Plan</b>	<b>FY2015 Plan</b>
Compute Salary Requirement Total Regular SWF	1,581	1,677	1,719
<b>Total CMSC SWF</b>	<b>1,581</b>	<b>1,677</b>	<b>1,719</b>
<b>CMSC M&amp;S</b>	<b>1,779</b>	<b>1,683</b>	<b>1,641</b>
<b>Total CMSC</b>	<b>3,360</b>	<b>3,360</b>	<b>3,360</b>

*LPC Fellows FWP not included (add 510k)  
Constant Effort in CMSC – reduce M&S  
Impact on travel and G&V*

*direct*

# Computing Sector – Energy Frontier (All)



*FY 14*

*FY 15*

Row Labels	Sum of FY+1 FTE	Sum of FY+1 SWF	Sum of FY+1 M&S	Sum of FY+2 FTE	Sum of FY+2 SWF	Sum of FY+2 M&S
<b>KA 21 01 02 ENERGY RESEARCH - NATIONAL LABORATORIES</b>	<b>7.58</b>	<b>1,282,483.43</b>	<b>57,324.00</b>	<b>7.05</b>	<b>1,207,944.19</b>	<b>54,424.75</b>
50	0.00	-	-	0.00	-	-
51	7.58	1,282,483.43	57,324.00	7.05	1,207,944.19	54,424.75
<b>KA 21 02 022 ENERGY FACILITIES - CMS DETECTOR AND COMPUTING SUPPORT</b>	<b>31.71</b>	<b>4,355,798.10</b>	<b>5,179,454.15</b>	<b>31.71</b>	<b>4,498,774.68</b>	<b>4,996,624.50</b>
45A	1.42	168,470.41	-	1.42	174,000.35	-
47	1.50	207,237.55	-	1.50	214,040.00	-
55	28.79	3,980,090.14	5,179,454.15	28.79	4,110,734.32	4,996,624.50
<b>KA 21 03 011 ENERGY PROJECTS - CMS UPGRADE OPC</b>	<b>0.50</b>	<b>78,399.87</b>	<b>-</b>	<b>0.50</b>	<b>83,631.21</b>	<b>-</b>
401	0.50	78,399.87	-	0.50	83,631.21	-
<b>Grand Total</b>	<b>39.79</b>	<b>5,716,681.40</b>	<b>5,236,778.15</b>	<b>39.26</b>	<b>5,790,350.07</b>	<b>5,051,049.25</b>

*Some reduction from FY14 - FY15*

*direct*

# Backup



# Energy Frontier Research



*FY 12*

DOE Support FY 2012 (Actual) - BASED on Sep-12 data								
Personnel Support from DOE:	LHC (ATLAS/CMS)		Tevatron (D0/CDF)		Other		TOTAL	
	No. heads	FTE	No. heads	FTE	No. heads	FTE	No. heads	FTE
<b>TOTAL</b>	85	51.31	116	46.03	65	5.20	266	102.54
DOE/HEP Funding (per activity):								
SWF (in \$, include overhead)	\$11,979,619		\$8,544,402		\$1,269,971		\$21,793,992	
M&S (in \$, include overhead)	\$1,748,237		\$2,525,019		\$55,080		\$4,328,336	
Travel (in \$, include overhead)	\$1,028,826		\$298,588		\$42,410		\$1,369,825	
<b>TOTAL</b>	<b>\$14,756,682</b>		<b>\$11,368,009</b>		<b>\$1,367,461</b>		<b>\$27,492,152</b>	

*FY 13*

DOE Support FY 2013 (Proposed) - HEAD COUNT BASED ON ACTUAL DEC-12 DATA								
Personnel Support from DOE:	LHC (ATLAS/CMS)		Tevatron (D0/CDF)		Other		TOTAL	
	No. heads	FTE	No. heads	FTE	No. heads	FTE	No. heads	FTE
<b>TOTAL</b>	63	52.51	65	29.23	19	3.28	147	85.02
DOE/HEP Funding (per activity):								
SWF (in \$, include overhead)	\$11,697,154		\$3,765,564		\$858,684		\$16,321,401	
M&S (in \$, include overhead)	\$1,638,232		\$1,307,207		\$0		\$2,945,440	
Travel (in \$, include overhead)	\$1,223,456		\$55,653		\$14,603		\$1,293,711	
<b>TOTAL</b>	<b>\$14,558,842</b>		<b>\$5,128,424</b>		<b>\$873,286</b>		<b>\$20,560,552</b>	

FY 2012	FY13 Budget	FY13 AFP	Case B FY14	Case B FY15	FY16
23504	20073	22790	18368	16625	14625